



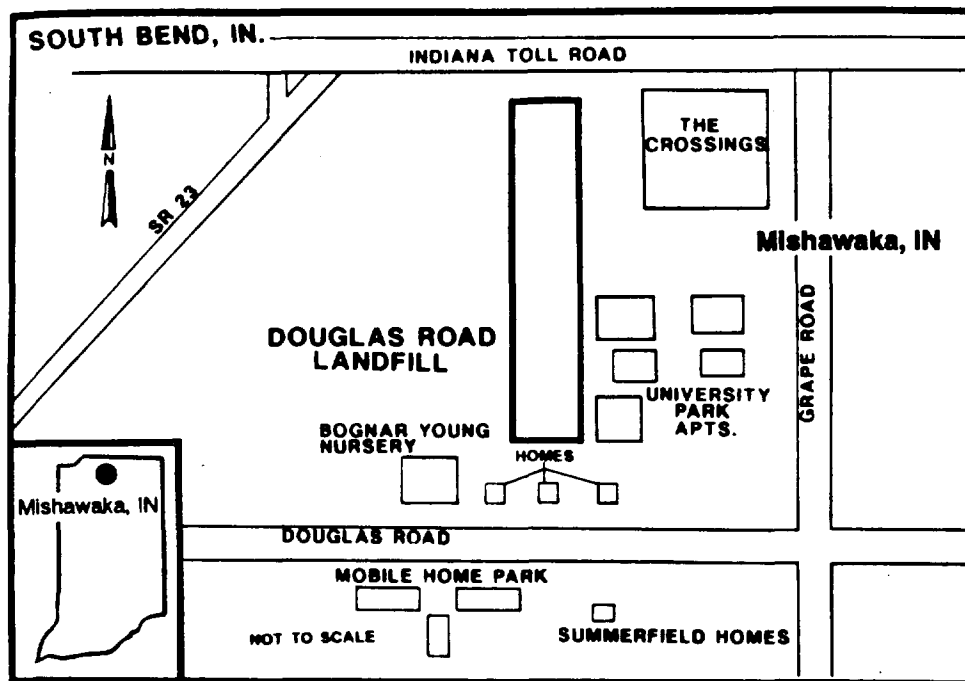
Indiana Department of Environmental Management  
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# Environmental Investigation Begins Douglas Road Landfill Superfund Site

Mishawaka, Indiana

December 1990



This fact sheet will describe...

- ☐ The history of the Douglas Road Landfill Superfund Site
- ☐ Details of the upcoming remedial investigation
- ☐ How you can stay informed about site activities

*The Douglas Road Landfill Superfund site is located one-quarter mile west of the intersection of Douglas and Grape Roads in unincorporated Mishawaka. The site is posted and fenced. It was used exclusively by Uniroyal Plastics, Inc. for the disposal of industrial wastes.*

## PUBLIC MEETING

IDEM will hold a public meeting to explain site activities and answer questions from residents and officials:

DATE: Wednesday, December 5, 1990

TIME: 7:00 p.m.

PLACE: Council Chambers  
Mishawaka City Hall  
600 E. Third St.  
Mishawaka, Indiana

If you have any questions please contact Prabhakar Kasarabada, the IDEM project manager for the Douglas Road site, at (317) 243-5130 or toll-free at (800) 451-6027.

The Indiana Department of Environmental Management (IDEM) has begun a study of the Douglas Road Landfill Superfund site near Mishawaka, Indiana. The study, called a remedial investigation and feasibility study (RI/FS), is being conducted by Uniroyal Plastics, Inc. (Uniroyal) under a legal agreement with IDEM. The work conducted at this site is subject to approval by IDEM.

The RI will determine the nature and extent of contamination at the site, and identify what health or environmental risks the site may pose to the surrounding community. The FS will evaluate options for addressing

contamination problems found during the RI.

This fact sheet provides background information on the Douglas Road Landfill site and explains how the RI/FS will be conducted. IDEM will hold a public meeting to discuss site activities on December 5, 1990. The meeting time and location are listed to the left.

Site-related documents and other information about the Superfund program are available at two site information repositories: the Mishawaka Public Library, 209 Lincolnway East, Mishawaka; and the St. Joseph County Health Department, County-City Building, Room 918, South Bend.

## SITE HISTORY

The Douglas Road Landfill covers nearly 19 acres near the intersection of Douglas and Grape Roads in unincorporated Mishawaka, Indiana. The landfill was leased to Uniroyal in 1955 for the disposal of industrial wastes. From 1956 to 1979, approximately 157,000 tons of material were disposed of at the site. Approximately 720,000 gallons of oil, sludge and solvents were disposed of, including **volatile organic compounds (VOCs)** and other industrial chemicals (words in **boldface** are defined in the glossary on the back page). Other materials included 488,000 cubic yards of **fly ash**, rubber products, plastic scrap, paper and wood; and 4,200 cubic yards of non-hazardous chemicals associated with the production of rubber and plastics.

In 1970, the Indiana Stream Pollution Control Board advised Uniroyal to stop sending solvents to the landfill because a nearby residential well was thought to be contaminated with solvents. Between 1971 and 1979, only fly ash and some scrap rubber products were sent to the landfill. In addition, the Board requested that Uniroyal install six **monitoring wells** to sample **ground water** at the site.

From 1971 to 1974, Uniroyal tested the monitoring wells semi-annually. One chemical, **tetrahydrofuran**, was found consistently in one monitoring well until 1974, but was not detected after that. From 1975 to 1979, regular testing was not conducted. However, monitoring wells were pumped twice a year, and if odor was detected during pumping, a sample was drawn and analyzed. No VOC contamination was detected during that time.

Uniroyal ceased landfill operations in 1979. A new ground water monitoring well was installed, existing wells were closed due to poor conditions, and the site was covered and seeded. The site was officially closed in December 1980, and Uniroyal purchased the site property in 1981.

In 1984, the U.S. Environmental Protection Agency (U.S. EPA) conducted a site inspection to determine if the landfill might pose a threat to **public health** or the environment. The inspection **concluded** that potential exists for site-related contamination to adversely impact the surrounding community. Of particular concern is the potential impact on ground water, which supplies drinking water to private wells within a one-mile radius of the site. In addition, ground water supplies the South Bend and Mishawaka municipal drinking-water systems. The site was proposed for inclusion on the **National Priorities List (NPL)** in 1986, and finalized in 1989. The NPL is a roster of the nation's most serious hazardous-waste sites. Sites on the NPL are eligible for investigation and cleanup under the federal Superfund program.

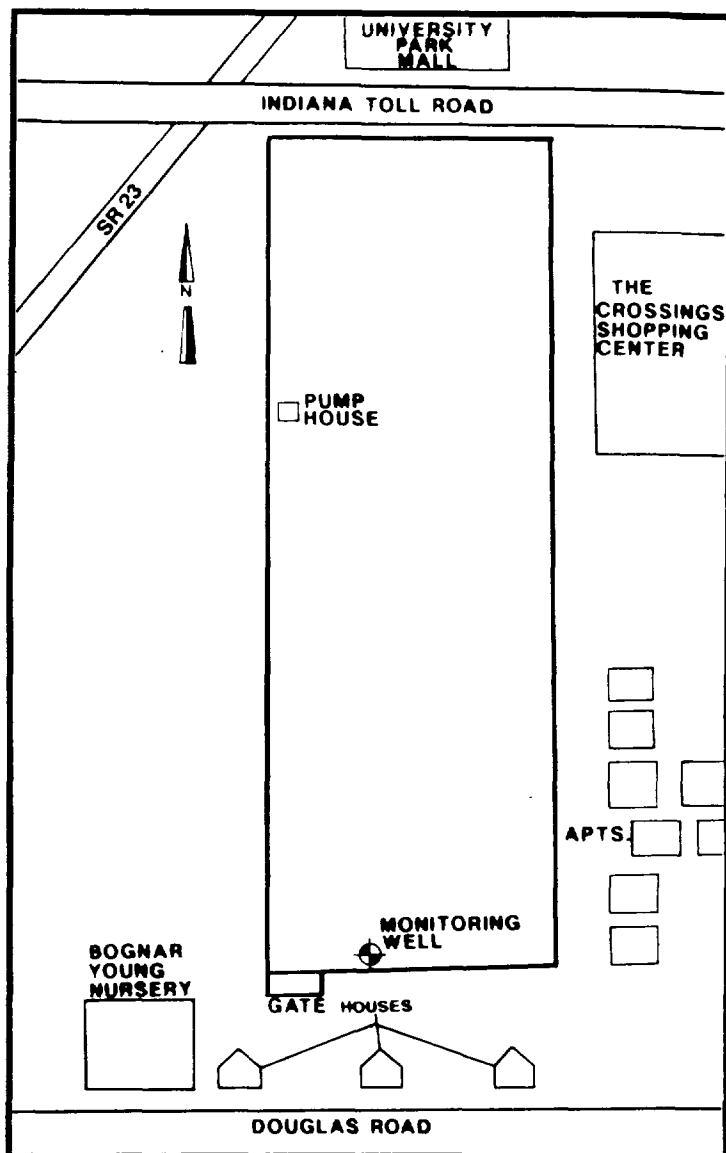
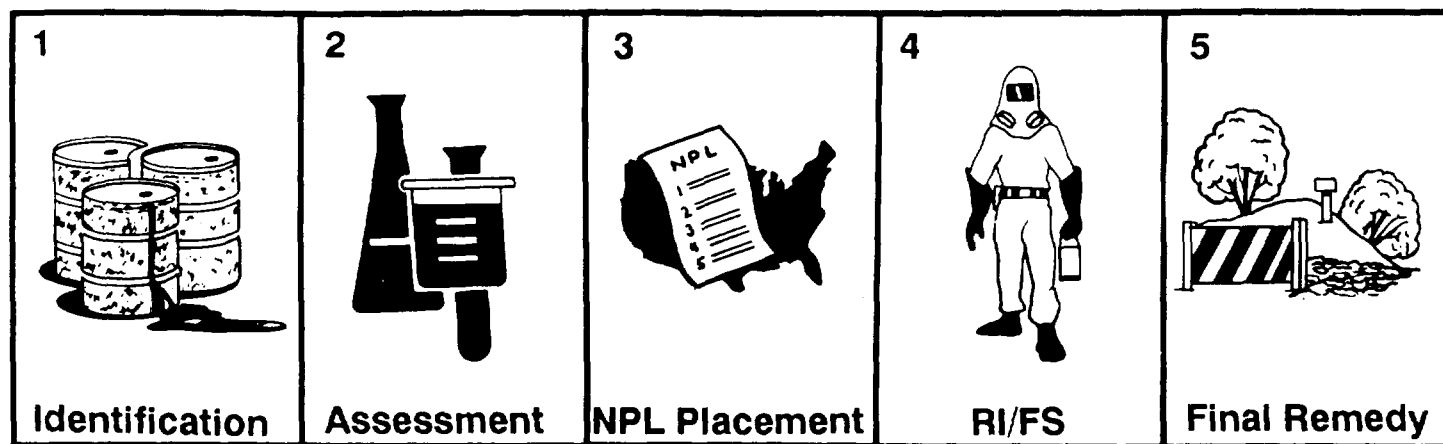


Figure 1 Site Map

Ground water monitoring has been conducted at and near the site since its closure. An existing on-site monitoring well was sampled five times between 1980 and 1985, and no VOCs were detected. In 1986 and 1987, IDEM sampled private residential wells south and southwest of the landfill along Douglas Road. One well was tested in 1986 and showed no significant contamination. In May 1987, IDEM sampled five additional wells, and three indicated the presence of low levels of **methylene chloride**. One of the five wells was found to contain high levels of methylene chloride. The well is no longer in use. IDEM requested assistance from U.S. EPA in confirming the test results. U.S. EPA samples showed no significant contamination in any of the wells.

In September 1989, Uniroyal and IDEM signed a consent decree in which Uniroyal agreed to conduct an RI/FS at the Douglas Road Landfill.

# THE SUPERFUND PROCESS



In 1980, Congress enacted the Comprehensive Environmental Response, Compensation and Liability Act, commonly known as Superfund. Congress created Superfund in response to national concerns about the effect of uncontrolled or abandoned hazardous-waste sites on public health or the environment. The law authorized the U.S. Environmental Protection Agency (U.S. EPA) to administer the program, and established a fund to pay for the investigation and cleanup of sites where responsible parties are unable or unwilling to address site problems. Congress amended and reauthorized the Superfund law in 1986, increasing the amount of the fund from \$1.6 billion to \$8.5 billion. The law also encourages community involvement in the Superfund process.

Several steps are involved in the Superfund investigation and cleanup process. After a site is initially discovered (1), an inspection is conducted, either by U.S. EPA or a state environmental agency, to determine the nature of site problems (2). The site is evaluated based on several factors, including:

- ☐ Potential health hazards created by substances at the site

- ☐ The potential for substances at the site to contaminate air or drinking-water supplies
- ☐ The potential for substances at the site to harm the local environment

If the site poses a serious threat to the community, it is placed on the National Priorities List (NPL). Sites on the NPL are eligible for investigation and cleanup under the Superfund program (3).

Site investigation activities are managed either by U.S. EPA or the appropriate state agency. The Indiana Department of Environmental Management (IDEM), through an agreement with U.S. EPA, is managing activities at this site.

A Superfund site requires an extensive study, called a remedial investigation and feasibility study (RI/FS) (4). The RI determines the nature and extent of contamination at the site. The FS evaluates different options for addressing site problems.

When the RI/FS is completed, the lead agency recommends a plan to address site contamination. A 30-day public comment period is held to provide the public an opportunity to review and comment on the RI/FS and the recommended cleanup plan. After comments are reviewed and considered, a site cleanup plan is selected, designed and implemented (5).

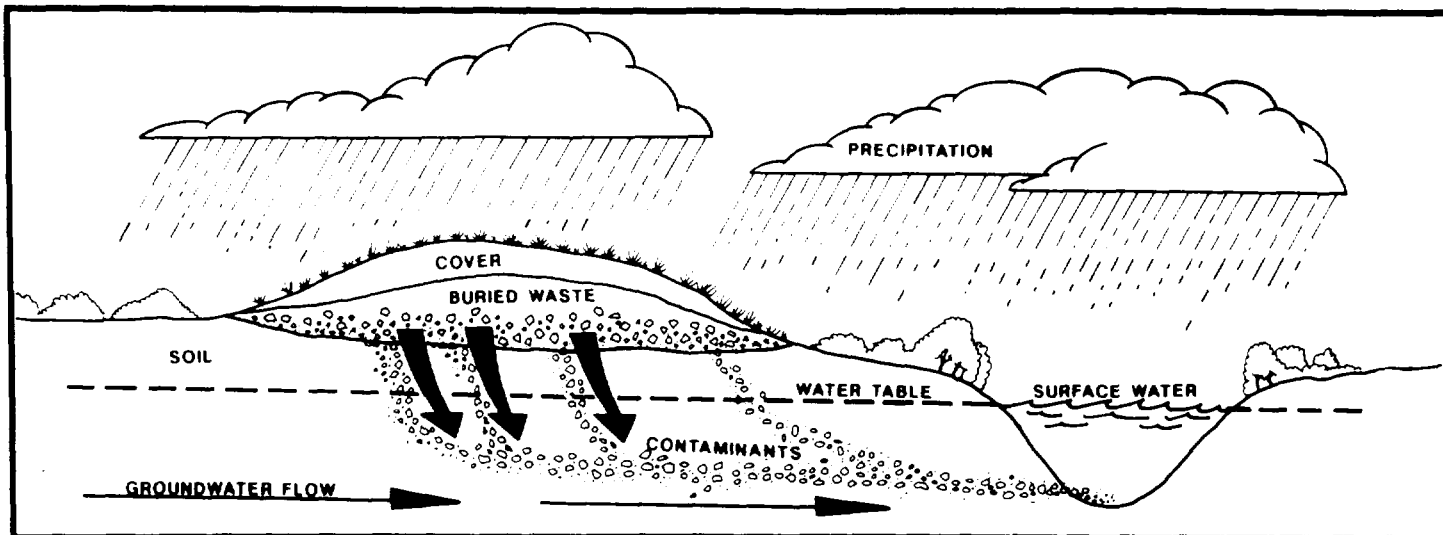
At any time during this process, U.S. EPA may conduct an emergency response action if the site becomes an immediate threat to public health or the environment.

## POTENTIALLY RESPONSIBLE PARTIES

Potentially responsible parties, or PRPs, are those parties believed to have contributed to contamination problems at a Superfund site. PRPs may be waste generators, waste haulers, site operators or owners.

If one or more PRPs for a site are identified and agree to cooperate with the lead agency, they may conduct and pay for the RI/FS under the supervision of the lead agency.

# PATHWAYS OF CONTAMINATION



There are several pathways, or routes, through which an uncontrolled hazardous waste site may cause contamination problems in the surrounding community. The most common routes (shown in the illustration above) are described below.

## AIR

Air may provide a route of contamination depending on factors such as wind speed and direction, humidity, and temperature. Tiny particles of hazardous substances may be dispersed as dust into the air and then carried by the wind. Many volatile liquids form gases or vapors when they evaporate in the air. Some airborne chemicals are harmful if they are inhaled or come in contact with the body.

People who come in contact with high concentrations of airborne contaminants are at the greatest risk. On-site workers are required to wear special equipment to minimize the risk of contact. The concentration of airborne contaminants decreases as airborne particles are dispersed over a wide area.

## SURFACE WATER

There are several ways in which hazardous wastes may enter surface

waters such as ponds, rivers or lakes. For example, when rain water runs down the sides of an elevated site toward the ground (see illustration), contaminants present at the site may be dissolved or suspended in the runoff. The runoff drains away from the site toward an existing body of water, such as a river. Once in the river, contaminants can be carried downstream toward nearby communities, which may use the river for recreation, food or a drinking-water source. If fish or other aquatic life consume contaminated water, the contaminants may be introduced into the food chain, and eventually be consumed by people.

## GROUND WATER

Many hazardous waste sites were in operation long before most people understood the interaction between substances present on the surface and ground water. Many sites are located directly above ground water sources. Therefore, contamination of ground water supplies near a site is often a major concern.

Ground water is formed through a long process. Precipitation, such as rain, reaches the ground and then slowly moves through the soil, sand, gravel and/or rock into small cracks

and crevices beneath the ground surface. These water-bearing rocks, or sand and gravel formations are called aquifers. Water from the aquifers may be withdrawn from the wells for various uses. Aquifers, and the ground water they contain, often cover large geographic areas.

Substances may be picked up (leached) by water or other liquid as it moves through and about the wastes at the site. This contaminated liquid, called leachate, may travel through the waste and be carried along as the water moves through the soil into the aquifer. This process can go on for years. Water drawn from the aquifer through a well may also contain these substances. Cleaning contamination in an aquifer is a lengthy and expensive task.

Waste facilities constructed according to current federal and state standards contain multiple safeguards to minimize the possibility of ground-water contamination.

## REMEDIAL INVESTIGATION AND FEASIBILITY STUDY (RI/FS)

The remedial investigation and feasibility study (RI/FS) at the Douglas Road Landfill is expected to take from 18 months to two years to complete, and will be supervised by IDEM in consultation with U.S. EPA.

The RI is designed to:

- ☐ Evaluate the nature and extent of contamination at and near the landfill
- ☐ Identify the pathways through which contaminants may leave the landfill and affect the surrounding environment
- ☐ Determine the direction of ground water flow near the site
- ☐ Determine whether site contamination may pose a threat to public health or the environment in the surrounding community.
- ☐ Gather the information necessary to address site contamination problems.

Table 1 describes the major tasks to be performed during the RI.

Based on the information gathered during the RI, a feasibility study (FS) will be developed. The FS evaluates different options for addressing contamination problems at the site. The options will be evaluated based primarily on nine criteria developed by U.S. EPA for selecting cleanup alternatives at Superfund sites. These criteria include overall protection of public health, long-term effectiveness, ease of implementation, community acceptance and cost. An FS report will be developed, providing the details of each option.

When the FS report is completed, the public will have an opportunity to comment on the options. IDEM will review public comments and then select a cleanup option for the site. U.S. EPA concurrence with the selected remedy will be required prior to implementation.

## REMEDIAL INVESTIGATION (RI) ACTIVITIES DOUGLAS ROAD LANDFILL SUPERFUND SITE

*The following activities are major components of the field work to be conducted at the Douglas Road Site during the remedial investigation. Before these activities begin, a work plan will be developed by Uniroyal and approved by IDEM. The work plan contains important information about the site, and specifically identifies how field and laboratory activities will be carried out.*

### 1. Surface Soil Investigation

Samples will be collected to determine the extent of surface soil contamination at and near the site. Background samples will also be taken to compare site soil conditions with soils from other areas in the community.

### 2. Surface Water/Sediment Investigation

Water and sediment samples from drainage ditches near the site will be tested to study surface-water quality away from the site. Background samples will be taken to compare surface water conditions at the site with surface water in other areas of the community.

### 3. Hydrogeologic Investigation

This study will be conducted in two phases. During Step 1, additional monitoring wells will be installed and sampled to supplement the existing monitoring wells. The water levels in the wells will help verify the direction of ground water flow beneath the site. During Step 2, additional wells will be installed to further characterize the site. Ground water samples will be tested during each phase of the investigation.

### 4. Waste Characterization

Sixteen soil borings will be drilled throughout the landfill to identify the types and location of wastes. Samples of wastes and soils will be taken from shallow depths to the water table, and analyzed for a wide range of chemical contaminants.

### 5. Air Sampling

Air samples will be collected to assess air quality at and near the site.

When field work is completed, a Remedial Investigation Report will be prepared. The report presents an analysis of the studies listed above, describes the nature and extent of contamination in the site area, and evaluates the potential impact of the site on public health and the environment.

## MAILING LIST

If you did not receive this through the mail, you are not on the Douglas Road Landfill mailing list. If you wish to be placed on the list, please complete this form, detach and mail to:

Jean Stern  
Office of External Affairs  
IDEM  
105 S. Meridian St.  
P.O. Box 6015  
Indianapolis, IN 46216-6015

NAME \_\_\_\_\_  
AFFILIATION \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_  
PHONE \_\_\_\_\_ ZIP \_\_\_\_\_



## TECHNICAL ASSISTANCE GRANTS AVAILABLE

In 1988, U.S. EPA introduced a program which enables citizen groups to obtain technical assistance in interpreting and understanding data generated during remedial activities at Superfund sites. Technical Assistance Grants, or TAGs, provide up to \$50,000 to community groups wishing to hire consultants to interpret sampling results, reports and other documents. At least twenty percent of *total project costs* must be matched by the group. For example, if \$50,000 were requested, the group must provide \$12,500 in matching funds (\$12,500 is twenty percent of the total project cost of \$62,500). Matching funds may come from any non-federal source, and may be cash or in-kind services. TAGs cannot be used to duplicate field or laboratory work.

Municipalities or other governmental agencies are not eligible to receive TAGs. However, government officials may belong to a community group requesting a TAG.

Additional information about TAGs is available at the site information repository, or from U.S. EPA Region 5, 230 S. Dearborn Street, Chicago, IL 60604. U.S. EPA officials may be contacted toll-free at 800-621-8431, between 9:00 a.m. and 4:30 p.m. weekdays, central time.

**Aquifer** - An aquifer is a layer of rock, sand or gravel underneath the ground surface. An aquifer is able to store water within cracks and pore spaces, or between grains. When there is enough good-quality water in an aquifer, it can be used for drinking or other purposes. The water found in an aquifer is called **ground water**.

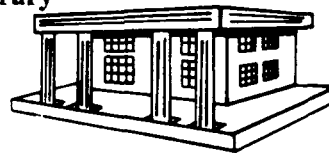
**Background** - The amount of substances that normally occur in the environment of a community. Background samples are taken at locations away from the influence of the site, such as opposite the direction of surface-water flow (upstream) or in the direction of surface-water flow (downstream). Background levels are compared to samples taken from a site or under the influence of a pollution source to determine if the site has adversely affected the environment.

**Fly Ash** - The ash-like product of incineration.

## INFORMATION REPOSITORIES

Information repositories contain laws, work plans, and other documents relevant to the investigation and cleanup of Superfund sites. If you would like additional information about Superfund or the activities planned for the Douglas Road site, please consult the various documents contained in the repositories, which are located at the following addresses:

**Mishawaka Public Library**  
209 Lincolnway East  
Mishawaka, IN 46554  
(219) 259-5277



**St. Joseph County Health Department**  
County-City Building, Room 918  
South Bend, IN 46601  
(219) 284-9750

## GLOSSARY

**Volatile Organic Compounds (VOCs)** - A group of compounds that have a tendency to evaporate when exposed to air. VOCs disappear more rapidly from surface water than from ground water, since ground water does not usually come in contact with air. In drinking water, some VOCs pose a potential threat to human health. Some VOCs are believed to cause cancer in people. Some of the VOCs identified at the Douglas Road Landfill are **methylene chloride** and **tetrahydrofuran**.

**Monitoring Well** - A water well drilled at or near a site at specific locations to provide information about ground water and the water-bearing characteristics of the soils beneath the ground surface. When the well is drilled, a soil sample is removed and analyzed to know types of soils beneath the surface and their effect on the movement of ground water or contaminants beneath the ground surface. After the monitoring wells are installed, samples of ground water are periodically removed to analyze site conditions.



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